

U.S. Serial Number: 10/675,730
Reply to Office Action of: 2/24/05
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REMARKS

Claims 1-9, as amended, are submitted for examination. Reconsideration is respectfully requested.

Claim 2 is objected to because of informalities. The claim has been amended as the Examiner suggests.

Claims 1, 3-5, 7-9, stand rejected under 35 U.S.C. 103(a) as being unpatentable over Draper et al., U.S. 4,640,233. Claims 2 and 6 would be allowable if rewritten in independent form.

The Examiner believes that the invention claimed in the rejected claims is disclosed by Draper et al. However, the amended claimed invention is not disclosed by Draper et al. (U.S. 4,640,233). Draper's disclosed invention is a model steam generator to simulate conditions within a nuclear steam generator and is intended to monitor corrosion caused by steam (i.e. water vapor). More specifically, Draper teaches monitoring corrosion of the heat exchanger tubes in nuclear steam generators (column 1, lines 6-8). These heat exchanger tubes are clearly identified (see column 5, lines 64-65) where produced steam passes (see column 6, lines 15-21).

Draper's references to liquid phases are either as water entrained in the steam (see column 6, lines 44-48) or as (water) condensate from the steam outlet side (see column 6, lines 65-67) and are relevant for purposes other than corrosion. These include separation of the water from the steam (column 3, lines 54-62) to isolate any sludge and to avoid water losses by recycling the water for further use in order to practice his invention efficiently (column 3, lines 36-43).

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In the claimed invention, corrosion from reactive sulfur compounds and naphthenic acids present in petroleum liquids and in their condensed vapors (i.e. liquid) are of concern, the latter because it is well known that those compounds and acids tend to concentrate in the condensate. Naphthenic acids are not corrosive in the vapor state. Therefore, Draper does not disclose and actually teaches away from the instant invention because his corrosion focus is on vapor, not liquid or condensate.

Corrosion caused by steam has been well known for over two centuries. Therefore, it would have been obvious to one of ordinary skill of the art that Draper's invention deals with monitoring corrosion resulting from steam (i.e. water vapor).

Since the instant invention does not concern itself with water vapor-induced corrosion as in Draper, but with liquid and condensate corrosion from sulfur compounds and naphthenic acids, the instant invention should be in condition for allowance.

Applicants believe that the claims now present in this application to be patentable and that this application is in condition for allowance, and such favorable action is respectfully requested. If any questions or issues remain, the resolution of which the Examiner feels would be advanced by a conference; he is invited to contact Applicants' attorney at the telephone number noted below.

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Respectfully submitted,



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☐ Pursuant to 37 CFR 1.34(a)

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